

Memo

To: Bob Woodward, Manoch Bahavar, and Victor Oancea
From: Xiaoping Yang and Keith McLaughlin
Date: July 13, 2001
Subject: Group-2 Patch 1 delivery for Phase 1: GA/ARS Testing of SSSCs
CC: Anton Dainty, Bob North

Introduction

As specified in the Phase 1 Data Delivery Plan (2000) and Validation Test Plan (2001), the Group-2 Consortium is to deliver the data, model, SSSCs, and documentations to the DTRA CMR R&D Testbed. Validation testing is to be conducted on the Testbed to validate the development by the Group-2. The original plan was to transmit all deliverables to the Testbed in one delivery and then concentrated testing would be conducted on the Testbed for an extended period of time. Currently the Testbed resources are exclusively devoted to the IDC development testing. Therefore the Group-2 deliverables need to be broken down into individually manageable tasks for testing on the Testbed due to its limited resources.

We have identified the GA/ARS testing as the first one to be conducted on the R&D Testbed. This test is flexible and self-contained, so it is easier to fit in between the IDC tasks and it requires minimum amount of human time from the Testbed personnel. Moreover, it is an important test that cannot be conducted within the Group-2 itself. For this testing there is no special requirement to the environment nor to the length/date of the test period. The reason for this testing is that SSSCs are considered to be incorporated into the Automatic System if successfully tested online. So far SSSCs have been used in the Interactive System, but not in the Automatic System.

This memo documents the Patch 1 delivery, including delivery contents, test plan, and installation. This delivery includes files needed for the GA/ARS testing of the SSSCs from the Group-2 IMS stations. The Testbed personnel will generate the GA grid file to include these stations and conduct online GA testing. Upon successful GA testing an analyst will analyze some events for the Group-2 region using ARS. A Test Report will be jointly written by the R&D Testbed and Group-2 at the completion of the GA/ARS testing.

Delivery Contents

In this delivery we include the velocity model specification file and SSSC files for all IMS stations in the study region (-20 to 80 degrees North, -40 to 100 degrees East; Figure 1). Excluding the

TBD station, there are 63 IMS stations in total in the region as specified in the Treaty. There are three data sources for the station information, the PIDC REB, the Treaty, and the updated listing from the IMS. There are some discrepancies with stations names and coordinates for a number of stations among different data sources. We use the PIDC REB information as the preferred one, if exists, since upon approval the SSSCs will be applied to the online data in the system. We use the IMS listing in the absence of the station information from the PIDC REB.

Table 1 lists the station names and coordinates as well as the comparisons between the three data sources. Column 1 shows the Treaty number of the station, PS for primary station and AS for auxiliary station. Columns 2-5 shows the final station name and coordinates used in developing the SSSCs. They are taken from the PIDC REB if exists, or from the IMS listing otherwise. Columns 6-8 shows the IMS listing station name and coordinate differences between the IMS listing and the PIDC REB. They are generally within 10 km from each other. The largest differences are for station NOA, the NORSAR array. Columns 9-11 shows the Treaty station name and coordinate differences between the IMS listing and the Treaty. There are a number of changes in station names and coordinates.

Figure 1 shows the final station location and names of the 63 IMS stations in the study region. We note that station information may change with time, particularly for stations not yet operating currently. Station name changes and/or significant coordinate changes will require updates on the SSSC file. The former also results in updates on the velocity model specification file and GA grid file. However, this testing does not need to be repeated for such changes.

The delivery file is /net/fox/export/group2/RDTB_delivery/Patch1/Patch1.tar.gz. It includes:

- the velocity model specification file, ars.defs (Appendix 1).
- the SSSC files for 63 IMS stations, named TT.\$sta.\$phase.reg.Group2_1 where \$phase is Pn or Sn. A sample is given in Appendix 2.

The SSSCs have the same format as the Fennoscandian and North American SSSCs currently in use by ARS at the PIDC and IDC. The specification file is the extension of the file in the current system by adding the Group-2 IMS stations. Note that the Fennoscandian SSSCs are already specified in the current file.

Test Plan

As specified in the Validation Test Plan (2001), the online testing of the SSSCs include GA testing for the Automatic System and the ARS testing for the Interactive System.

GA Testing

1. Objective

The objective of this test is to ensure the use of SSSCs will not cause problems in automatic event location processing (GA).

2. Requirements

The test requires running the GA program, the access to real time data and the Testbed Ops database, and the installation the SSSCs and the velocity model specification file. In addition, a GA grid file needs to be generated and installed to include the stations given in the specification file.

3. Procedure

Par files for running GA should already exist on the Testbed. GA will run for at least 2-3 data days in total in order to capture events in the study region. The GA runs may be on and off based on the Testbed availability as long as the time periods of these runs are noted.

4. Metrics

Metrics include run time estimates and numbers of events formed by GA.

5. Pass/Fail Criteria

GA should not crash. SSSCs should not cause significant delays in processing time.

ARS Testing

1. Objective

The objective of this test is to ensure the SSSCs will not cause problems in the interactive analyst event review process.

2. Requirements

The test requires running the ARS program by an analyst and the access to Testbed Ops database for data produced during the GA testing time period.

3. Procedure

Par files for running ARS should already exist on the Testbed. An analyst will review the GA results for the Group-2 region.

4. Metrics

Metrics include estimates on processing time. Comparison will also be made between the GA formed events and the analyst reviewed events.

5. Pass/Fail Criteria

ARS should not crash. SSSCs should not cause significant delays in processing time.

Installation and Preparation for Testing

We assume the configuration baseline of the files is identical to the current Ops system prior to the installation of the Patch 1 delivery. To install the SSSC files and the specification file,

- delete the existing Pn and Sn SSSC files for Fennoscandian stations (Yang and McLaughlin, 1999), TT.\$sta.\$phase.reg.fenno where \$phase is Pn or Sn. This includes stations ARCES, FINES, HFS, NOA, NRIS, and SPITS.
- move the unpacked SSSC files, TT.\$sta.\$phase.reg.Group2_1, to directory \$(STATICDIR)/TT/iasp91/SSSC, where \$(STATICDIR) is /cmss/config/earth_specs.
- copy the specification file, ars.defs, to directory \$(STATICDIR)/TT/vmsf to replace the existing one.

In preparation for GA and ARS testing, the par files with the SSSCs option turned on should already exist on the Testbed. A GA grid file should be generated and installed to include the new stations prior to the testing.

References

Group-2 Consortium, Phase 1 Data Delivery Plan, 2000.

Group-2 Consortium, Phase 1 Validation Test Plan, 2001.

Yang, X and K. McLaughlin, SSSCs for regional phases at Fennoscandian and other stations, CCB memo, CCB-PRO-99/03, 1999.

Table 1: IMS stations with SSSCs

treaty #	station name	lat	lon	elevation	IMS station name	IMS-PIDC lat	IMS-PIDC lon	treaty station name	IMS-treaty lat	IMS-treaty lon
PS11	BGCA	5.1761	18.4242	0.576	BGCA	0	0	BGCA	-.0239	.0242
PS15	DBIC	6.6701	-4.8563	0.025	DBIC	.0299	-.0437	DBIC	0	0
PS16	LXAR	26.0000	33.0000	0.000	LUXOR	0	.5	LXEG	0	.5
PS17	FINES	61.4436	26.0771	0.150	FINES	-.0436	.0229	FINES	0	0
PS19	GERES	48.8451	13.7016	1.132	GERES	-.0451	-.0016	GEC2	-.1	0
PS21	THR	35.8200	51.3900	0.000	THR	.08	-.29	THR	.1	-.3
PS23	MKAR	46.8000	82.3000	0.000	MKAR			MAK	0	.3
PS24	KMBO	-1.2740	36.8040	0.000	KMBO	.174	.496	KMBO	0	.1
PS27	NOA	61.0397	11.2148	0.717	NOA	-.2397	-.4148	NAO	0	0
PS28	ARCES	69.5349	25.5058	0.403	ARCES	-.0349	-.0058	ARAO	0	0
PS29	NIL	33.6500	73.2512	0.536	PRPK	.05	.048	PRPK	0	0
PS32	KBZ	43.7286	42.8975	1.023	KBZ	-.0286	.0025	KBZ	0	0
PS33	ZAL	53.9367	84.7981	0.213	ZAL	-.0367	.0019	ZAL	0	0
PS34	NRIS	69.0061	87.9964	0.498	NRIS	-.0061	.0036	NRI	0	0
PS40	ESDC	39.6755	-3.9617	0.753	ESDC	.024528	-.038333	ESDC	0	0
PS41	CMAR	18.4575	98.9429	0.307	CMAR	0	0	CMTD	-.3425	-.0571
PS42	THA	35.5600	8.7000	0.000	THA	.04	0	THA	0	0
PS43	BRAR	39.7250	33.6390	1.440	BRAR	0	0	BRTR	-.175	.839
PS44	ABKT	37.9304	58.1189	0.678	GEYT	-.0304	-.0189	GEYT	0	0
PS45	AKASG	50.7000	29.2000	0.000	AKASG			AKASG	.3	.1
AS3	GNI	40.0530	44.7240	1.460	GNI	.047	-.024	GNI	0	0
AS11	RCBR	-5.8000	-35.9000	0.000	RCBR			RGNB	1.1	1.1
AS26	VRAC	49.3083	16.5935	0.475	VRAC	-.00828	.00649	VRAC	0	0
AS28	ATD	11.5000	42.8000	0.000	ATD			ATD	0	-.1
AS29	KEG	29.9000	31.8000	0.000	KEG			KEG	0	0
AS30	FURI	8.9030	38.6883	2.545	FURI	-.003	.0117	FURI	0	0
AS34	MSKU	-1.7000	13.6000	0.000	MSKU			BAMB	0	0
AS36	IDI	35.3000	24.9000	0.000	IDI			IDI	0	0
AS38	BORG	64.7474	-21.3268	0.110	BORG	-.0474	.0268	BORG	-.1	0
AS43	PSI	2.7000	98.9200	0.000	PSI	0	-.02	PSI	0	0
AS46	KRBA	30.0000	56.8000	0.000	KRBA			KRM	-.3	-.3
AS47	SHGO	32.1000	48.8000	0.000	SHGO			MSN	.2	-.5
AS48	EIL	29.6699	34.9512	0.210	EIL	.03014	.04883	MBH	-.1	.1
AS49	MRNI	33.0118	35.3920	0.918	MMAI	-.01178	.00803	PARD	.4	.1
AS50	VAE	37.5000	14.4000	0.000	VAE			ENAS	0	.1

Table 1: IMS stations with SSSCs

treaty #	station name	lat	lon	elevation	IMS station name	IMS-PIDC lat	IMS-PIDC lon	treaty station name	IMS-treaty lat	IMS-treaty lon
AS56	ASF	32.2000	36.9000	0.000	ASF			---	-.3	-.7
AS57	BRVK	53.0581	70.2828	0.315	BRVK	.0419	.0172	BRVK	0	0
AS58	KURK	50.7000	78.6000	0.000	KURK			KURK	0	0
AS59	AKTO	50.4000	58.0000	0.000	AKTO			AKTO	0	0
AS60	AAK	42.6300	74.4800	0.000	AAK	-.03	.02	AAK	0	0
AS61	TAN	-18.9000	47.6000	0.000	TAN			TAN	0	0
AS62	KOWA	14.5000	-4.0000	0.000	KOWA			KOWA	0	0
AS66	MDT	32.8000	-4.6000	0.000	MDT			MDT	0	0
AS67	TSUM	-19.2022	17.5838	1.240	TSUM	.0022	.0162	TSUM	-.1	.2
AS68	EVN	28.0000	86.8000	0.000	EVN			EVN	0	0
AS7	CHT	22.4000	91.8000	0.000	CHT			CHT	0	0
AS72	SPITS	78.1777	16.3700	0.323	SPITS	.0223	.03	SPITS	0	0
AS73	JMI	70.9000	-8.7000	0.000	JMI			JMI	0	0
AS74	WSAR	23.0000	58.0000	0.000	WSAR			WSAR	0	0
AS81	MLR	45.4917	25.9437	1.360	MLR	.0083	-.0437	MLR	0	0
AS82	KIRV	58.5850	49.4158	0.000	KIRV	.015	-.0158	KIRV	0	0
AS83	KVAR	43.9557	42.6952	1.196	KIVO	.0443	.0048	KIVO	0	0
AS84	OBN	55.1167	36.6000	0.160	OBN	-.0167	0	OBN	0	0
AS85	ARU	56.4302	58.5625	0.250	ARU	-.0302	.0375	ARU	0	0
AS94	ZIL	53.9000	57.0000	0.000	ZIL			ZIL	0	0
AS96	RAYN	23.6000	45.6000	0.000	RAYN			RAYN	0	0
AS97	MBO	14.3900	-16.9600	0.000	MBO	.01	-.04	MBO	0	0
AS100	PALK	7.3000	80.7000	0.000	PALK			COC	.4	.8
AS101	HFS	60.1344	13.6968	0.265	HFS	-.0344	.0032	HPS	0	0
AS102	DAVOS	46.8394	9.7943	2.800	DAVON	-.0394	.0057	DAVOS	0	0
AS103	MBAR	-0.6000	30.7000	0.000	MBAR			MBRU	-.2	.3
AS104	EKA	55.3332	-3.1588	0.353	EKA	-.0332	-.0412	EKA	0	0
AS119	LSZ	-15.2766	28.1882	1.185	LSZ	-.0234	.0118	LSZ	0	0

treaty #: Treaty number. PS- primary station; AS- auxiliary station

station name, lat, lon, elevation: final parameters for the IMS station

IMS station name: station name used in the IMS listing

IMS-PIDC lat, IMS-PIDC lon: coordinate differences between the IMS listing and the PIDC REB.

treaty station name: station name used in the Treaty

IMS-treaty lat, IMS-treaty lon: coordinate differences between the IMS listing and the Treaty

63 IMS stations in the study region

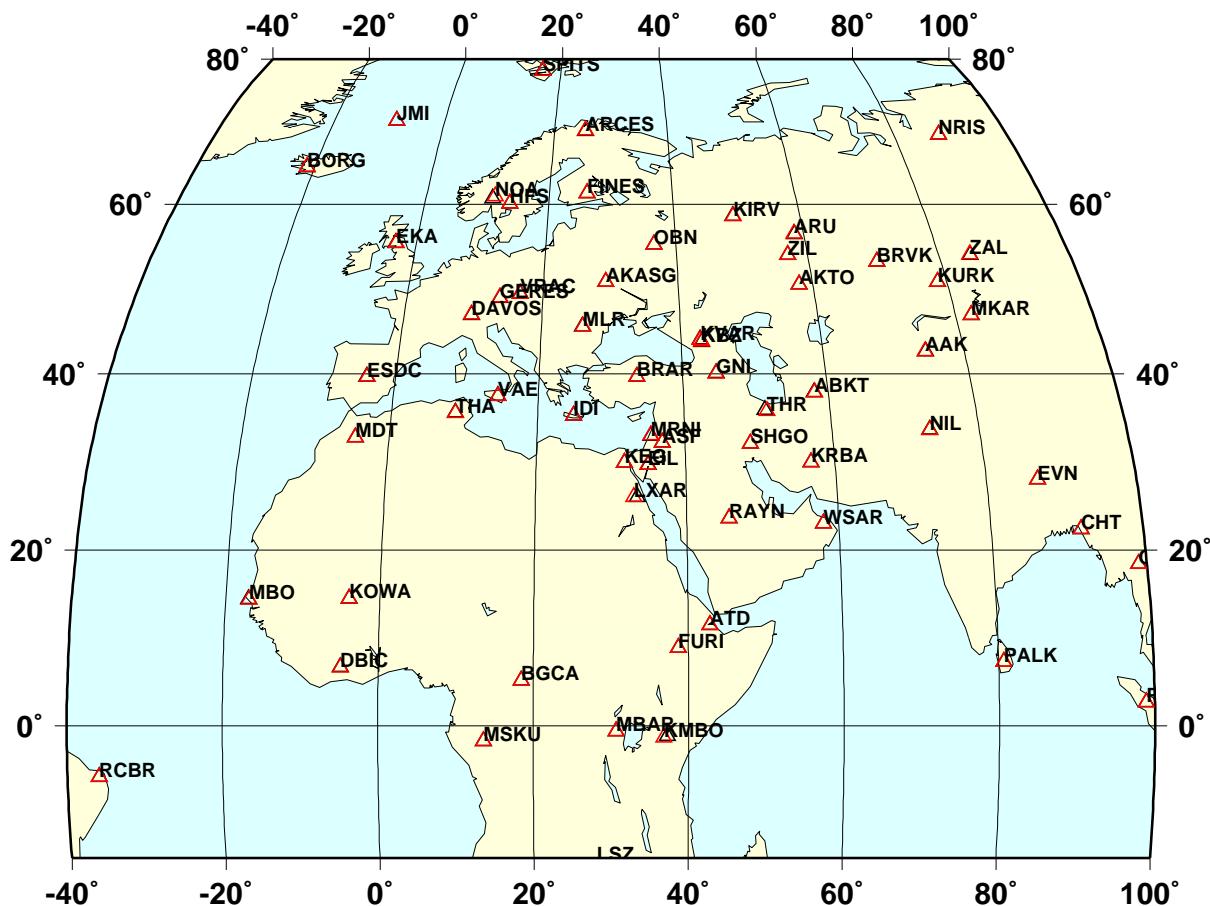


Figure 1. IMS station names and locations in the Group-2 study region (Table 1). SSSCs are developed and delivered to the R&D Testbed for testing for all 63 IMS stations.

Appendix 1. Velocity model specification file

```
#  
# The first line of this file defines the directory locations for the path-  
# dependent long-period info (namely, LR and LQ phases).  
.LP      # Directory location of path-dependent LP info (LR/LQ)  
# The second line defines the path/name of a radial_2D station file.  
# radial_2D uses 2-D tables to return hydro-acoustic travel times. To  
# not use radial_2D, specify NONE on the second line.  
.radial_2D/station_lists  
#./radial_2D/SEASONAL/wake_psur # old CMR  
  
#  
# The following lines indicate directory locations for specific velocity  
# models defined below. The very first line defines the model name and  
# directory location for the default travel-time table set. If a velocity  
# model is discovered without a representation here, then the reading  
# routines will complain loudly. Note that the velocity model identifier  
# cannot be more than 15 characters long to satisfy the vmodel attribute  
# description contained within the assoc table. A blank line must follow  
# the list of models immediately below. A '#' can occur in the first  
# column anywhere within the list of models for comments.  
  
#  
# Velocity ModelDirectory location relative to this directory  
# -----  
iasp91      ./iasp91  
baltic      ./baltic  
  
# Station/phase specific knowledge. This includes station/phase-dependent  
# velocity model, sedimentary velocity, travel-time modeling error, and  
# a bulk station correction term.  
  
#  
# Note that each line of station/phase-dependent knowledge includes, in
```

```

# order, the station name, phase type, velocity model, sedimentary velocity
# (km/sec) for making elevation corrections, and a bulk static station
# correction term (sec.). The bulk static station correction will be
# added to the overall travel-time relative to the velocity model specified
# on the same line. If no station/phase info resides here, then the default
# phase-dependent model specified above will be used. Individual line
# entries only need be space delimited. Any line with '#' in its first
# position will be ignored throughout this file. Please be aware that any
# SSSC files found within these travel-time areas will be read as well,
# regardless of whether or not they are to be employed. Also realize that
# an SSSC's applied will be relative to ellipticity, elevation and bulk
# static station correction terms.

#
# Sta    Phase   VelocitySed.Bulk
# Name  Type    Model   Vel.     Station  Comments
#                   (km/s)  Corr (s)
# -----  -----
ARCES      *P      iasp91    5.8      0.0
ARCES      *S      iasp91    3.35     0.0
ARCES      Pn     iasp91    5.8      0.0
ARCES      Pg     iasp91    5.8      0.0
ARCES      Sn     iasp91    3.35     0.0
ARCES      Lg     iasp91    3.35     0.0
FINES      *P      iasp91    5.8      0.0
FINES      *S      iasp91    3.35     0.0
FINES      Pn     iasp91    5.8      0.0
FINES      Pg     iasp91    5.8      0.0
FINES      Sn     iasp91    3.35     0.0
FINES      Lg     iasp91    3.35     0.0
HFS        Pn     iasp91    5.8      0.0
HFS        Pg     iasp91    5.8      0.0
HFS        Sn     iasp91    3.35     0.0
HFS        Lg     iasp91    3.35     0.0
NOA        Pn     iasp91    5.8      0.0
NOA        Pg     iasp91    5.8      0.0

```

ARCES	*P	iasp91	5.8	0.0
NOA	Sn	iasp91	3.35	0.0
NOA	Lg	iasp91	3.35	0.0
KAF	Pn	iasp91	5.8	0.0
KAF	Pg	iasp91	5.8	0.0
KAF	Sn	iasp91	3.35	0.0
KAF	Lg	iasp91	3.35	0.0
NORES	Pn	iasp91	5.8	0.0
NORES	Pg	iasp91	5.8	0.0
NORES	Sn	iasp91	3.35	0.0
NORES	Lg	iasp91	3.35	0.0
VAF	Pn	iasp91	5.8	0.0
VAF	Pg	iasp91	5.8	0.0
VAF	Sn	iasp91	3.35	0.0
VAF	Lg	iasp91	3.35	0.0
NRIS	Pn	iasp91	5.8	0.0
NRIS	Pg	iasp91	5.8	0.0
NRIS	Sn	iasp91	3.35	0.0
NRIS	Lg	iasp91	3.35	0.0
SPITS	Pn	iasp91	5.8	0.0
SPITS	Pg	iasp91	5.8	0.0
SPITS	Sn	iasp91	3.35	0.0
SPITS	Lg	iasp91	3.35	0.0
ALQ	Pn	iasp91	5.8	0.0
BBB	Pn	iasp91	5.8	0.0
DLBC	Pn	iasp91	5.8	0.0
ELK	Pn	iasp91	5.8	0.0
FRB	Pn	iasp91	5.8	0.0
ILAR	Pn	iasp91	5.8	0.0
INK	Pn	iasp91	5.8	0.0
KDAK	Pn	iasp91	5.8	0.0
MBC	Pn	iasp91	5.8	0.0
MNV	Pn	iasp91	5.8	0.0
NEW	Pn	iasp91	5.8	0.0
NVAR	Pn	iasp91	5.8	0.0
PDAR	Pn	iasp91	5.8	0.0
PFO	Pn	iasp91	5.8	0.0
SADO	Pn	iasp91	5.8	0.0
SCHQ	Pn	iasp91	5.8	0.0
SFJ	Pn	iasp91	5.8	0.0

ARCES	*P	iasp91	5.8	0.0
TKL	Pn	iasp91	5.8	0.0
TXAR	Pn	iasp91	5.8	0.0
ULM	Pn	iasp91	5.8	0.0
YKA	Pn	iasp91	5.8	0.0
YBH	Pn	iasp91	5.8	0.0
ALQ	Pg	iasp91	5.8	0.0
BBB	Pg	iasp91	5.8	0.0
DLBC	Pg	iasp91	5.8	0.0
ELK	Pg	iasp91	5.8	0.0
FRB	Pg	iasp91	5.8	0.0
ILAR	Pg	iasp91	5.8	0.0
INK	Pg	iasp91	5.8	0.0
KDAK	Pg	iasp91	5.8	0.0
MBC	Pg	iasp91	5.8	0.0
MNV	Pg	iasp91	5.8	0.0
NEW	Pg	iasp91	5.8	0.0
NVAR	Pg	iasp91	5.8	0.0
PDAR	Pg	iasp91	5.8	0.0
PFO	Pg	iasp91	5.8	0.0
SADO	Pg	iasp91	5.8	0.0
SCHQ	Pg	iasp91	5.8	0.0
SFJ	Pg	iasp91	5.8	0.0
TKL	Pg	iasp91	5.8	0.0
TXAR	Pg	iasp91	5.8	0.0
ULM	Pg	iasp91	5.8	0.0
YKA	Pg	iasp91	5.8	0.0
YBH	Pg	iasp91	5.8	0.0
ALQ	Sn	iasp91	3.35	0.0
BBB	Sn	iasp91	3.35	0.0
DLBC	Sn	iasp91	3.35	0.0
ELK	Sn	iasp91	3.35	0.0
FRB	Sn	iasp91	3.35	0.0
ILAR	Sn	iasp91	3.35	0.0
INK	Sn	iasp91	3.35	0.0
KDAK	Sn	iasp91	3.35	0.0
MBC	Sn	iasp91	3.35	0.0
MNV	Sn	iasp91	3.35	0.0
NEW	Sn	iasp91	3.35	0.0
NVAR	Sn	iasp91	3.35	0.0

ARCES	*P	iasp91	5.8	0.0
PDAR	Sn	iasp91	3.35	0.0
PFO	Sn	iasp91	3.35	0.0
SADO	Sn	iasp91	3.35	0.0
SCHQ	Sn	iasp91	3.35	0.0
SFJ	Sn	iasp91	3.35	0.0
TKL	Sn	iasp91	3.35	0.0
TXAR	Sn	iasp91	3.35	0.0
ULM	Sn	iasp91	3.35	0.0
YKA	Sn	iasp91	3.35	0.0
YBH	Sn	iasp91	3.35	0.0
ALQ	Lg	iasp91	3.35	0.0
BBB	Lg	iasp91	3.35	0.0
DLBC	Lg	iasp91	3.35	0.0
ELK	Lg	iasp91	3.35	0.0
FRB	Lg	iasp91	3.35	0.0
ILAR	Lg	iasp91	3.35	0.0
INK	Lg	iasp91	3.35	0.0
KDAK	Lg	iasp91	3.35	0.0
MBC	Lg	iasp91	3.35	0.0
MNV	Lg	iasp91	3.35	0.0
NEW	Lg	iasp91	3.35	0.0
NVAR	Lg	iasp91	3.35	0.0
PDAR	Lg	iasp91	3.35	0.0
PFO	Lg	iasp91	3.35	0.0
SADO	Lg	iasp91	3.35	0.0
SCHQ	Lg	iasp91	3.35	0.0
SFJ	Lg	iasp91	3.35	0.0
TKL	Lg	iasp91	3.35	0.0
TXAR	Lg	iasp91	3.35	0.0
ULM	Lg	iasp91	3.35	0.0
YKA	Lg	iasp91	3.35	0.0
YBH	Lg	iasp91	3.35	0.0
AAK	Pn	iasp91	5.8	0.0
AAK	Sn	iasp91	3.35	0.0
ABKT	Pn	iasp91	5.8	0.0
ABKT	Sn	iasp91	3.35	0.0
AKASG	Pn	iasp91	5.8	0.0
AKASG	Sn	iasp91	3.35	0.0

AAK	Pn	iasp91	5.8	0.0
AKTO	Pn	iasp91	5.8	0.0
AKTO	Sn	iasp91	3.35	0.0
ARU	Pn	iasp91	5.8	0.0
ARU	Sn	iasp91	3.35	0.0
ASF	Pn	iasp91	5.8	0.0
ASF	Sn	iasp91	3.35	0.0
ATD	Pn	iasp91	5.8	0.0
ATD	Sn	iasp91	3.35	0.0
BGCA	Pn	iasp91	5.8	0.0
BGCA	Sn	iasp91	3.35	0.0
BORG	Pn	iasp91	5.8	0.0
BORG	Sn	iasp91	3.35	0.0
BRAR	Pn	iasp91	5.8	0.0
BRAR	Sn	iasp91	3.35	0.0
BRVK	Pn	iasp91	5.8	0.0
BRVK	Sn	iasp91	3.35	0.0
CHT	Pn	iasp91	5.8	0.0
CHT	Sn	iasp91	3.35	0.0
CMAR	Pn	iasp91	5.8	0.0
CMAR	Sn	iasp91	3.35	0.0
DAVOS	Pn	iasp91	5.8	0.0
DAVOS	Sn	iasp91	3.35	0.0
DBIC	Pn	iasp91	5.8	0.0
DBIC	Sn	iasp91	3.35	0.0
EIL	Pn	iasp91	5.8	0.0
EIL	Sn	iasp91	3.35	0.0
EKA	Pn	iasp91	5.8	0.0
EKA	Sn	iasp91	3.35	0.0
ESDC	Pn	iasp91	5.8	0.0
ESDC	Sn	iasp91	3.35	0.0
EVN	Pn	iasp91	5.8	0.0
EVN	Sn	iasp91	3.35	0.0
FURI	Pn	iasp91	5.8	0.0
FURI	Sn	iasp91	3.35	0.0
GERES	Pn	iasp91	5.8	0.0
GERES	Sn	iasp91	3.35	0.0
GNI	Pn	iasp91	5.8	0.0
GNI	Sn	iasp91	3.35	0.0
IDI	Pn	iasp91	5.8	0.0

AAK	Pn	iasp91	5.8	0.0
IDI	Sn	iasp91	3.35	0.0
JMI	Pn	iasp91	5.8	0.0
JMI	Sn	iasp91	3.35	0.0
KBZ	Pn	iasp91	5.8	0.0
KBZ	Sn	iasp91	3.35	0.0
KEG	Pn	iasp91	5.8	0.0
KEG	Sn	iasp91	3.35	0.0
KIRV	Pn	iasp91	5.8	0.0
KIRV	Sn	iasp91	3.35	0.0
KMBO	Pn	iasp91	5.8	0.0
KMBO	Sn	iasp91	3.35	0.0
KOWA	Pn	iasp91	5.8	0.0
KOWA	Sn	iasp91	3.35	0.0
KRBA	Pn	iasp91	5.8	0.0
KRBA	Sn	iasp91	3.35	0.0
KURK	Pn	iasp91	5.8	0.0
KURK	Sn	iasp91	3.35	0.0
KVAR	Pn	iasp91	5.8	0.0
KVAR	Sn	iasp91	3.35	0.0
LSZ	Pn	iasp91	5.8	0.0
LSZ	Sn	iasp91	3.35	0.0
LXAR	Pn	iasp91	5.8	0.0
LXAR	Sn	iasp91	3.35	0.0
MBAR	Pn	iasp91	5.8	0.0
MBAR	Sn	iasp91	3.35	0.0
MBO	Pn	iasp91	5.8	0.0
MBO	Sn	iasp91	3.35	0.0
MDT	Pn	iasp91	5.8	0.0
MDT	Sn	iasp91	3.35	0.0
MKAR	Pn	iasp91	5.8	0.0
MKAR	Sn	iasp91	3.35	0.0
MLR	Pn	iasp91	5.8	0.0
MLR	Sn	iasp91	3.35	0.0
MRNI	Pn	iasp91	5.8	0.0
MRNI	Sn	iasp91	3.35	0.0
MSKU	Pn	iasp91	5.8	0.0
MSKU	Sn	iasp91	3.35	0.0
NIL	Pn	iasp91	5.8	0.0
NIL	Sn	iasp91	3.35	0.0

AAK	Pn	iasp91	5.8	0.0
OBN	Pn	iasp91	5.8	0.0
OBN	Sn	iasp91	3.35	0.0
PALK	Pn	iasp91	5.8	0.0
PALK	Sn	iasp91	3.35	0.0
PSI	Pn	iasp91	5.8	0.0
PSI	Sn	iasp91	3.35	0.0
RAYN	Pn	iasp91	5.8	0.0
RAYN	Sn	iasp91	3.35	0.0
RCBR	Pn	iasp91	5.8	0.0
RCBR	Sn	iasp91	3.35	0.0
SHGO	Pn	iasp91	5.8	0.0
SHGO	Sn	iasp91	3.35	0.0
TAN	Pn	iasp91	5.8	0.0
TAN	Sn	iasp91	3.35	0.0
THA	Pn	iasp91	5.8	0.0
THA	Sn	iasp91	3.35	0.0
THR	Pn	iasp91	5.8	0.0
THR	Sn	iasp91	3.35	0.0
TSUM	Pn	iasp91	5.8	0.0
TSUM	Sn	iasp91	3.35	0.0
VAE	Pn	iasp91	5.8	0.0
VAE	Sn	iasp91	3.35	0.0
VRAC	Pn	iasp91	5.8	0.0
VRAC	Sn	iasp91	3.35	0.0
WSAR	Pn	iasp91	5.8	0.0
WSAR	Sn	iasp91	3.35	0.0
ZAL	Pn	iasp91	5.8	0.0
ZAL	Sn	iasp91	3.35	0.0
ZIL	Pn	iasp91	5.8	0.0
ZIL	Sn	iasp91	3.35	0.0

#@(#)
ars.defs 1.3 07/2001

Appendix 2. A sample SSSC file (Pn for station EIL)

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.07	-0.48	-0.83								
-1.02	-1.21	-1.16	-1.15	-1.24	-1.14	-1.09	-1.06	-1.27	-1.04	-0.87	-1.08	-1.08	-1.00	-1.00	-1.28	-1.45									
-1.67	-1.95	-2.34	-2.56	-2.76	-2.85	-2.38	-0.91	-0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00								
0.00	0.00	0.00	0.00																						
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.50	-1.48	-1.52	-1.43							
-1.16	-1.27	-1.39	-1.28	-1.33	-1.34	-1.13	-1.09	-1.06	-0.92	-0.63	-0.78	-0.65	-0.59	-0.58	-0.66	-0.91									
-1.18	-1.49	-1.76	-2.08	-2.32	-2.50	-2.68	-2.75	-2.26	-0.72	-0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							
0.00	0.00	0.00	0.00																						
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.15	-1.08	-1.81	-1.93	-1.89	-1.62					
-1.50	-1.54	-1.59	-1.56	-1.46	-1.37	-1.11	-1.06	-1.02	-0.88	-0.84	-0.57	-0.29	-0.23	-0.01	-0.14	-0.32									
-0.50	-0.80	-1.14	-1.52	-1.87	-2.08	-2.32	-2.48	-2.64	-2.77	-1.75	-0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
0.00	0.00	0.00	0.00																						
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-1.46	-1.86	-1.95	-2.11	-2.19	-2.09					
-1.77	-1.63	-1.84	-1.62	-1.57	-1.57	-1.53	-1.36	-1.18	-1.01	-1.00	-0.60	-0.27	-0.18	0.24	0.37	0.41									
0.17	-0.14	-0.50	-1.00	-0.91	-1.33	-1.76	-2.07	-2.33	-2.60	-2.84	-2.30	-0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
0.00	0.00	0.00	0.00																						
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.29	-1.53	-2.09	-2.19	-2.35	-2.21	-2.23	-2.22			
-2.11	-1.68	-1.62	-1.75	-1.88	-1.73	-1.58	-1.30	-1.04	-0.83	-0.83	-0.46	-0.17	-0.06	0.31	0.45	0.41									
1.05	0.85	0.33	0.24	-0.14	-0.61	-1.02	-1.55	-1.94	-2.14	-2.41	-2.75	-2.49	-0.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
0.00	0.00	0.00	0.00																						
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.20	-1.46	-2.11	-2.48	-2.72	-2.69	-2.67	-2.25	-2.19		
-2.04	-1.89	-1.64	-1.65	-1.74	-1.70	-1.47	-1.19	-0.98	-0.62	-0.66	-0.36	-0.10	-0.05	0.24	0.46	0.76									
1.15	1.35	1.53	1.29	0.69	0.12	-0.69	-1.13	-1.24	-1.72	-2.16	-2.32	-2.44	-2.12	-0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
0.00	0.00	0.00	0.00																						
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.08	-1.16	-2.05	-2.51	-2.82	-3.02	-2.94	-2.90	-2.62	-2.31	
-2.18	-1.98	-1.90	-1.94	-1.75	-1.63	-1.40	-1.12	-0.81	-0.52	-0.41	-0.18	-0.01	0.11	0.23	0.41	0.56									
0.87	1.23	1.84	1.97	1.69	1.00	0.25	-0.28	-0.76	-1.24	-1.64	-1.92	-2.17	-2.47	-1.56	-0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
0.00	0.00	0.00	0.00																						
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.73	-1.99	-2.60	-3.10	-3.20	-3.33	-3.13	-3.02	-2.81	-2.51	
-2.35	-2.28	-2.04	-1.86	-2.23	-1.73	-1.28	-0.85	-0.52	-0.20	0.00	0.17	0.21	0.35	0.52	0.54	0.62									
0.83	1.41	1.64	1.63	1.93	1.63	1.08	0.35	-0.45	-0.87	-1.12	-1.55	-1.76	-2.01	-2.15	-0.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
0.00	0.00	0.00	0.00																						
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.14	-1.41	-2.32	-2.79	-3.28	-3.57	-3.70	-3.36	-3.12	-2.78	-2.73
-2.63	-2.49	-2.34	-1.99	-1.75	-1.82	-1.30	-0.79	-0.48	-0.13	0.07	0.18	0.19	0.36	0.45	0.48	0.59									
0.96	1.20	1.15	1.48	1.39	1.43	1.19	0.70	-0.07	-0.42	-0.73	-1.19	-1.51	-1.77	-1.90	-1.46	-0.12									
0.00	0.00	0.00	0.00																						
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.60	-1.85	-2.20	-2.76	-3.43	-3.81	-3.91	-3.70	-3.40	-2.92	-2.76
-2.69	-2.62	-2.48	-2.06	-1.76	-1.66	-1.57	-0.87	-0.58	-0.18	-0.01	0.08	0.20	0.26	0.30	0.32	0.49									
0.75	0.55	0.89	0.93	1.10	0.98	0.82	0.56	0.18	-0.27	-0.68	-0.98	-1.15	-1.34	-1.53	-1.45	-0.44									
0.00	0.00	0.00	0.00																						
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.04	-0.95	-1.82	-2.64	-3.19	-3.76	-4.30	-4.38	-3.85	-3.36	-3.21
3.13	-2.73	-2.64	-2.55	-2.32	-1.78	-1.38	-1.27	-1.10	-0.72	-0.45	-0.23	-0.20	-0.07	0.01	0.08	0.09									
0.30	0.22	0.36	0.36	0.51	0.58	0.62	0.46	0.19	-0.02	-0.39	-0.64	-0.88	-1.05	-1.21	-1.33	-1.15									
-0.71	-0.03	0.00	0.00	0.00																					
0.00	0.00	0.00	0.00	0.00	-0.16	-1.30	-1.93	-2.59	-3.47	-4.22	-4.59	-4.35	-3.99	-3.64	-3.25										
-2.98	-2.91	-2.75	-2.63	-2.22	-1.89	-1.42	-1.15	-1.35	-1.01	-0.95	-0.61	-0.66	-0.58	-0.42	-0.37	-0.19									
-0.13	-0.15	-0.28	-0.19	-0.03	0.01	-0.00	-0.06	-0.25	-0.42	-0.52	-0.65	-0.80	-0.87	-0.89	-0.95	-0.66									
-0.34	-0.03	0.00	0.00	0.00																					

0.00	0.00	0.00	0.00	0.00	-0.34	-1.34	-1.93	-2.74	-3.61	-4.28	-4.59	-4.49	-4.33	-3.78	-3.31	-3.01	-2.81	-2.61	-2.26	-1.96	-1.75	-1.60	-1.33	-1.25	-1.30	-1.12	-0.98	-0.95	-0.86	-0.75	-0.63	-0.56		
-0.50	-0.61	-0.80	-0.71	-0.54	-0.46	-0.47	-0.34	-0.35	-0.54	-0.73	-0.93	-1.03	-0.73	-0.60	-0.55	-0.54	-0.40	-0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	-0.39	-1.17	-1.93	-2.88	-3.82	-4.47	-4.55	-4.29	-4.06	-3.79	-3.47	-3.05	-2.72	-2.52	-2.13	-1.78	-1.77	-1.97	-1.53	-1.37	-1.63	-1.73	-1.59	-1.27	-1.24	-1.16	-0.91	-0.83		
-0.92	-1.13	-1.10	-1.17	-1.17	-0.89	-1.01	-0.96	-0.75	-0.80	-0.95	-0.96	-1.05	-0.88	-0.59	-0.33	-0.26	-0.07	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.00	0.00	0.00	0.00	0.00	-0.75	-1.40	-1.72	-2.65	-3.64	-4.26	-4.40	-4.24	-3.98	-3.69	-3.40	-2.98	-2.67	-2.27	-1.89	-1.70	-1.52	-1.43	-1.69	-1.64	-1.67	-2.01	-2.00	-1.60	-1.52	-1.25	-1.14	-1.22		
-1.32	-1.45	-1.45	-1.32	-1.26	-1.19	-1.08	-1.04	-0.97	-1.06	-1.16	-1.19	-1.26	-1.10	-0.55	-0.15	-0.17	-0.06	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.00	0.00	0.00	0.00	0.00	-0.02	-0.91	-1.42	-1.53	-2.27	-3.22	-3.79	-3.90	-3.75	-3.50	-3.24	-2.95	-2.69	-2.54	-2.21	-1.83	-1.72	-1.68	-1.51	-1.73	-1.79	-1.71	-2.06	-2.33	-2.00	-1.68	-1.38	-1.39	-1.38	
0.02	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
0.00	0.00	0.00	0.00	0.00	-0.88	-1.37	-1.47	-2.12	-3.04	-3.58	-3.69	-3.56	-3.39	-3.22	-2.96	-2.68	-2.46	-2.27	-2.14	-2.08	-1.95	-1.87	-1.92	-1.96	-2.10	-2.27	-2.48	-2.20	-1.65	-1.56	-1.51	-1.45		
-1.48	-1.56	-1.62	-1.63	-1.62	-1.68	-1.64	-1.63	-1.50	-1.35	-1.29	-1.25	-1.34	-1.24	-0.72	-0.18	-0.19	-0.05	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.00	0.00	0.00	0.00	0.00	-0.66	-1.25	-1.43	-2.00	-2.89	-3.45	-3.57	-3.42	-3.22	-3.02	-2.77	-2.52	-2.29	-2.06	-1.91	-2.05	-2.07	-1.99	-1.95	-2.01	-2.12	-2.19	-2.70	-0.93	-2.03	-1.62	-1.50	-1.37		
-1.29	-1.26	-1.29	-1.36	-1.46	-1.58	-1.61	-1.67	-1.61	-1.52	-1.48	-1.41	-1.43	-1.22	-0.64	-0.11	-0.12	-0.18	-0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.00	0.00	0.00	0.00	0.00	-0.69	-1.64	-1.51	-1.42	-1.81	-2.44	-2.69	-2.64	-2.56	-2.46	-2.35	-2.23	-2.15	-2.15	-2.10	-2.03	-1.92	-1.86	-1.91	-2.01	-2.05	-2.18	-1.80	-1.88	-1.53	-1.37	-1.15			
0.23	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
0.00	0.00	0.00	0.00	0.00	-0.39	-1.69	-1.56	-1.43	-1.72	-2.34	-2.63	-2.57	-2.55	-2.49	-2.33	-2.18	-2.11	-2.21	-2.16	-2.03	-1.94	-1.87	-1.81	-1.78	-1.90	-2.05	-2.84	-2.43	-1.79	-1.51	-1.33	-1.08		
0.07	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
0.00	0.00	0.00	0.00	0.00	-0.16	-1.71	-1.62	-1.38	-1.46	-2.11	-2.58	-2.60	-2.52	-2.42	-2.28	-2.17	-2.06	-2.03	-1.97	-1.88	-1.80	-1.67	-1.62	-1.65	-1.79	-2.39	-2.57	-2.14	-1.86	-1.40	-1.10	-0.92		
-0.78	-0.66	-0.75	-0.90	-0.97	-1.04	-1.18	-1.40	-1.70	-1.91	-2.02	-2.13	-2.08	-1.60	-0.83	-0.27	-0.11	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	-1.40	-1.72	-1.49	-1.25	-1.77	-2.38	-2.45	-2.36	-2.29	-2.19	-2.13	-2.05	-1.87	-1.71	-1.74	-1.70	-1.69	-1.31	-0.70	-0.05	0.10	0.23	0.10	0.00	0.00	0.00	0.00	
0.00	0.00	0.00	0.00	0.00	-0.69	-1.64	-1.51	-1.42	-1.81	-2.44	-2.69	-2.64	-2.56	-2.46	-2.35	-2.23	-2.15	-2.15	-2.10	-2.03	-1.92	-1.86	-1.91	-2.01	-2.05	-2.18	-1.80	-1.88	-1.53	-1.37	-1.15			
0.23	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
0.00	0.00	0.00	0.00	0.00	-0.39	-1.69	-1.56	-1.43	-1.72	-2.34	-2.63	-2.57	-2.55	-2.49	-2.33	-2.18	-2.11	-2.21	-2.16	-2.03	-1.94	-1.87	-1.81	-1.78	-1.90	-2.05	-2.84	-2.43	-1.79	-1.51	-1.33	-1.08		
0.07	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
0.00	0.00	0.00	0.00	0.00	-0.16	-1.71	-1.62	-1.38	-1.46	-2.11	-2.58	-2.60	-2.52	-2.42	-2.28	-2.17	-2.06	-2.03	-1.97	-1.88	-1.80	-1.67	-1.62	-1.65	-1.79	-2.39	-2.57	-2.14	-1.86	-1.40	-1.10	-0.92		
0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
0.00	0.00	0.00	0.00	0.00	-0.69	-1.64	-1.51	-1.42	-1.81	-2.44	-2.69	-2.64	-2.56	-2.46	-2.35	-2.23	-2.15	-2.15	-2.10	-2.03	-1.92	-1.86	-1.91	-2.01	-2.05	-2.18	-1.80	-1.88	-1.53	-1.37	-1.15			
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
0.00	0.00	0.00	0.00	0.00	-0.39	-1.69	-1.56	-1.43	-1.72	-2.34	-2.63	-2.57	-2.55	-2.49	-2.33	-2.18	-2.11	-2.21	-2.16	-2.03	-1.94	-1.87	-1.81	-1.78	-1.90	-2.05	-2.84	-2.43	-1.79	-1.51	-1.33	-1.08		
0.07	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
0.00	0.00	0.00	0.00	0.00	-0.16	-1.71	-1.62	-1.38	-1.46	-2.11	-2.58	-2.60	-2.52	-2.42	-2.28	-2.17	-2.06	-2.03	-1.97	-1.88	-1.80	-1.67	-1.62	-1.65	-1.79	-2.39	-2.57	-2.14	-1.86	-1.40	-1.10	-0.92		
0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
0.00	0.00	0.00	0.00	0.00	-0.69	-1.64	-1.51	-1.42	-1.81	-2.44	-2.69	-2.64	-2.56	-2.46	-2.35	-2.23	-2.15	-2.15	-2.10	-2.03	-1.92	-1.86	-1.91	-2.01	-2.05	-2.18	-1.80	-1.88	-1.53	-1.37	-1.15			
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
0.00	0.00	0.00	0.00	0.00	-0.39	-1.69	-1.56	-1.43	-1.72	-2.34	-2.63	-2.57	-2.55	-2.49	-2.33	-2.18	-2.11	-2.21	-2.16	-2.03	-1.94	-1.87	-1.81	-1.78	-1.90	-2.05	-2.84	-2.43	-1.79	-1.51	-1.33	-1.08		
0.07	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
0.00	0.00	0.00	0.00	0.00	-0.16	-1.71	-1.62	-1.38	-1.46	-2.11	-2.58	-2.60	-2.52	-2.42	-2.28	-2.17	-2.06	-2.03	-1.97	-1.88	-1.80	-1.67	-1.62	-1.65	-1.79	-2.39	-2.57	-2.14	-1.86	-1.40	-1.10	-0.92		
0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
0.00	0.00	0.00	0.00	0.00	-0.69	-1.64	-1.51	-1.42	-1.81	-2.44	-2.69	-2.64	-2.56	-2.46	-2.35	-2.23	-2.15	-2.15	-2.1															

0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.88	-1.51	-1.31	-1.14	-1.26	-1.82	-2.08	-1.99	-1.74	-1.63
-1.51	-1.40	-1.33	-1.17	-1.09	-0.84	-0.72	-0.85	-1.20	-0.80	-1.13	-1.68	-1.85	-1.58	-0.64	-0.35	-0.08
0.11	0.26	0.08	-0.05	-0.26	-0.46	-0.61	-0.71	-1.06	-1.27	-1.22	-0.78	-0.54	-0.60	-0.64	-0.24	0.00
0.00	0.00	0.00	0.00													
0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.16	-1.48	-1.33	-1.18	-1.10	-1.43	-1.61	-1.85	-1.86	-1.48
-1.42	-1.19	-1.12	-1.19	-1.00	-0.67	-0.49	-0.47	-0.44	-0.15	-0.48	-1.03	-1.38	-1.34	-0.88	-0.45	-0.07
0.12	0.38	0.52	0.22	-0.02	-0.18	-0.38	-0.80	-0.84	-0.80	-0.66	-0.44	-0.55	-0.60	-0.72	-0.05	0.00
0.00	0.00	0.00	0.00													
0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.61	-1.34	-1.20	-1.05	-0.98	-1.17	-1.59	-1.47	-1.39	
-1.17	-1.07	-1.04	-1.08	-0.63	-0.28	-0.21	-0.30	-0.11	0.03	-0.07	-0.53	-0.91	-1.00	-0.51	-0.36	0.03
0.19	0.27	0.64	0.54	0.23	0.07	-0.05	-0.32	-0.61	-0.33	-0.23	-0.45	-0.59	-0.67	-0.23	0.00	0.00
0.00	0.00	0.00	0.00													
0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.05	-1.04	-1.05	-1.03	-1.02	-0.95	-1.12	-1.36	-1.21	
-1.23	-1.10	-0.94	-0.83	-0.57	-0.22	-0.04	0.21	0.17	0.25	0.38	0.23	-0.33	-0.55	-0.66	-0.26	0.19
0.26	0.47	0.57	0.71	0.58	0.20	0.12	-0.04	0.01	-0.07	-0.43	-0.50	-0.66	-0.55	-0.02	0.00	0.00
0.00	0.00	0.00	0.00													
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.14	-1.01	-1.06	-1.01	-0.99	-1.06	-0.96	-1.21	
-1.21	-1.10	-0.98	-0.91	-0.41	-0.25	-0.02	0.21	0.24	0.39	0.70	0.68	0.19	-0.02	-0.35	-0.11	-0.23
0.19	0.80	0.70	0.71	0.73	0.61	0.49	0.39	0.10	-0.15	-0.45	-0.57	-0.60	-0.09	0.00	0.00	0.00
0.00	0.00	0.00	0.00													
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.26	-0.88	-0.90	-0.94	-0.93	-0.95	-0.96		
-1.05	-1.08	-1.07	-0.63	-0.40	-0.24	0.08	0.18	0.24	0.40	0.86	0.92	0.92	0.82	0.12	0.14	-0.06
0.16	0.67	1.02	0.90	0.86	0.78	0.50	0.31	-0.11	-0.25	-0.44	-0.64	-0.14	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00													
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.28	-0.79	-0.88	-0.95	-0.91	-0.90		
-0.86	-0.88	-0.95	-0.60	-0.43	-0.17	0.10	0.21	0.35	0.59	1.01	1.11	1.23	1.20	0.85	0.28	0.10
0.39	0.80	1.17	1.15	0.99	0.62	0.32	0.06	-0.34	-0.46	-0.67	-0.23	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00													
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.21	-0.80	-0.85	-0.89	-0.92
-0.87	-0.64	-0.34	-0.41	-0.40	-0.16	0.03	0.12	0.23	0.68	1.10	1.08	1.16	1.48	1.51	0.79	0.36
0.74	0.93	1.09	0.93	0.79	0.47	-0.05	-0.14	-0.41	-0.67	-0.18	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00													
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.18	-0.70	-0.81	-0.85	
-0.84	-0.47	-0.22	-0.02	-0.03	0.09	0.15	0.19	0.34	0.89	1.25	1.17	1.19	1.70	1.77	1.27	0.82
1.01	0.97	0.84	0.72	0.61	0.27	-0.02	-0.42	-0.64	-0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00													
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.07	-0.52	-0.75		
-0.81	-0.49	-0.38	-0.16	-0.17	-0.01	0.26	0.59	0.80	1.05	1.28	1.33	1.38	1.59	1.57	1.36	0.84
0.79	0.73	0.72	0.55	0.55	0.10	-0.30	-0.38	-0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00													
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.27
-0.54	-0.54	-0.43	-0.37	-0.30	-0.08	0.22	0.32	0.62	0.77	0.96	1.01	1.05	1.24	1.33	1.15	0.79
0.60	0.58	0.55	0.44	0.25	0.05	-0.12	-0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00													
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-0.04	-0.28	-0.50	-0.61	-0.41	-0.11	0.03	0.06	0.27	0.43	0.71	0.73	0.76	1.02	1.11	0.90	0.83
0.48	0.43	0.41	0.31	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00													

Modeling errors in map view (origin is NW corner):

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.74
1.78	1.81	1.83	1.86	1.88	1.89	1.91	1.92	1.92	1.93	1.93	1.93	1.93	1.93	1.92	1.92	1.90	

1.89	1.87	1.85	1.83	1.80	1.77	1.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.75	1.79	1.83
1.86	1.89	1.91	1.93	1.95	1.96	1.97	1.98	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.99	1.98	1.97	
1.96	1.95	1.93	1.91	1.88	1.86	1.82	1.79	1.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.74	1.79	1.83
1.93	1.95	1.97	1.99	2.00	2.01	2.02	2.02	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.02	2.02	
2.01	2.00	1.99	1.97	1.95	1.92	1.90	1.86	1.82	1.78	1.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.76	1.81	1.86
1.98	2.00	2.02	2.03	2.03	2.04	2.04	2.04	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.04
2.04	2.03	2.03	2.01	2.00	1.98	1.95	1.93	1.89	1.85	1.81	1.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.77	1.83	1.87
2.02	2.03	2.04	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05
2.05	2.05	2.05	2.04	2.03	2.02	2.00	1.98	1.95	1.91	1.87	1.82	1.77	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.78	1.83	1.88
2.04	2.05	2.05	2.05	2.05	2.04	2.04	2.04	2.03	2.03	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.03	2.04
2.04	2.05	2.05	2.05	2.05	2.04	2.03	2.01	1.99	1.96	1.92	1.88	1.83	1.77	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.77	1.83	1.88
2.05	2.05	2.05	2.04	2.03	2.02	2.01	2.01	2.00	1.99	1.99	1.98	1.98	1.98	1.99	1.99	2.05	2.05	2.05
2.02	2.03	2.04	2.05	2.05	2.04	2.03	2.01	1.99	1.96	1.92	1.88	1.83	1.77	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.75	1.81	1.86
2.04	2.05	2.05	2.05	2.05	2.04	2.04	2.04	2.03	2.03	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.03	2.04
2.04	2.05	2.05	2.05	2.05	2.04	2.03	2.01	1.99	1.96	1.92	1.88	1.83	1.77	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.75	1.82	1.86
2.05	2.04	2.03	2.01	2.00	1.98	1.96	1.95	1.94	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.94	1.95	1.97
1.98	2.00	2.01	2.03	2.04	2.05	2.05	2.05	2.04	2.04	2.02	2.02	1.96	1.92	1.87	1.81	1.75	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.79	1.86	1.91
2.03	2.02	2.00	1.97	1.95	1.93	1.91	1.89	1.88	1.87	1.86	1.86	1.86	1.86	1.86	1.86	1.87	1.88	1.91
1.93	1.95	1.97	2.04	2.03	2.02	2.01	2.01	2.00	1.99	1.98	1.97	1.97	1.97	1.97	1.97	1.98	1.99	1.97
1.98	2.00	2.01	2.03	2.04	2.05	2.05	2.05	2.04	2.04	2.02	2.02	1.96	1.92	1.87	1.81	1.75	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.79	1.86	1.91
2.01	1.98	1.96	1.93	1.90	1.87	1.85	1.83	1.81	1.80	1.79	1.79	1.79	1.79	1.79	1.79	1.80	1.81	1.85
1.88	1.90	1.93	1.96	1.99	2.01	2.03	2.04	2.05	2.05	2.04	2.04	2.04	2.04	2.04	2.04	2.04	1.83	1.76
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.76	1.83	1.88
1.98	1.95	1.91	1.88	1.85	1.81	1.78	1.76	1.74	1.73	1.72	1.72	1.72	1.72	1.72	1.72	1.74	1.76	1.79
1.82	1.85	1.88	1.92	1.95	1.98	2.01	2.03	2.05	2.05	2.04	2.04	2.04	2.04	2.04	2.04	2.04	1.89	1.83
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.75	1.82	1.86
1.95	1.91	1.87	1.83	1.79	1.75	1.72	1.69	1.67	1.65	1.64	1.64	1.64	1.64	1.64	1.64	1.67	1.69	1.72
1.76	1.79	1.83	1.87	1.91	1.95	1.99	2.01	2.04	2.05	2.05	2.04	2.04	2.04	2.04	2.04	1.94	1.88	1.82
1.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.77	1.84	1.91

1.91	1.87	1.82	1.78	1.73	1.69	1.66	1.63	1.60	1.58	1.57	1.57	1.57	1.59	1.60	1.63	1.66	
1.70	1.74	1.78	1.83	1.87	1.92	1.96	2.00	2.02	2.04	2.05	2.05	2.03	2.00	1.96	1.90	1.84	
1.76	0.00	0.00	0.00														
	0.00	0.00	0.00	0.00	0.00	1.79	1.86	1.93	1.98	2.02	2.04	2.05	2.05	2.03	2.01	1.97	1.93
1.88	1.83	1.78	1.73	1.68	1.64	1.60	1.57	1.54	1.52	1.51	1.51	1.51	1.52	1.54	1.57	1.60	
1.64	1.69	1.74	1.79	1.84	1.89	1.93	1.98	2.01	2.03	2.05	2.05	2.04	2.01	1.97	1.92	1.86	
1.78	0.00	0.00	0.00														
	0.00	0.00	0.00	0.00	0.00	1.80	1.87	1.94	1.99	2.02	2.04	2.05	2.04	2.02	1.99	1.95	1.91
1.85	1.80	1.74	1.69	1.64	1.59	1.55	1.52	1.49	1.47	1.46	1.45	1.46	1.47	1.49	1.52	1.55	
1.60	1.64	1.70	1.75	1.81	1.86	1.91	1.96	2.00	2.03	2.05	2.05	2.04	2.02	1.98	1.93	1.87	
1.79	0.00	0.00	0.00														
	0.00	0.00	0.00	0.00	0.00	1.81	1.88	1.95	1.99	2.03	2.05	2.05	2.04	2.02	1.98	1.94	1.89
1.83	1.77	1.71	1.66	1.60	1.55	1.51	1.47	1.44	1.42	1.41	1.41	1.41	1.42	1.45	1.48	1.51	
1.56	1.61	1.66	1.72	1.78	1.84	1.89	1.94	1.99	2.02	2.04	2.05	2.05	2.03	1.99	1.94	1.88	
1.80	0.00	0.00	0.00														
	0.00	0.00	0.00	0.00	1.73	1.81	1.89	1.95	2.00	2.03	2.05	2.05	2.04	2.01	1.97	1.93	1.87
1.81	1.75	1.69	1.63	1.58	1.52	1.48	1.44	1.41	1.39	1.37	1.37	1.37	1.39	1.41	1.44	1.48	
1.53	1.58	1.64	1.70	1.76	1.82	1.88	1.93	1.98	2.01	2.04	2.05	2.05	2.03	1.99	1.94	1.88	
1.80	0.00	0.00	0.00														
	0.00	0.00	0.00	0.00	0.00	1.81	1.89	1.95	2.00	2.03	2.05	2.05	2.04	2.01	1.97	1.92	1.86
1.80	1.74	1.68	1.62	1.56	1.51	1.46	1.42	1.39	1.36	1.34	1.33	1.34	1.36	1.39	1.42	1.46	
1.51	1.56	1.62	1.68	1.75	1.81	1.87	1.93	1.97	2.01	2.04	2.05	2.05	2.03	1.99	1.94	1.88	
1.80	0.00	0.00	0.00														
	0.00	0.00	0.00	0.00	0.00	1.81	1.88	1.95	2.00	2.03	2.05	2.05	2.04	2.01	1.97	1.92	1.86
1.80	1.74	1.67	1.61	1.55	1.50	1.45	1.41	1.38	1.35	1.32	1.30	1.32	1.35	1.38	1.41	1.46	
1.50	1.56	1.62	1.68	1.74	1.81	1.87	1.92	1.97	2.01	2.04	2.05	2.05	2.03	1.99	1.94	1.88	
1.80	0.00	0.00	0.00														
	0.00	0.00	0.00	0.00	0.00	1.79	1.87	1.94	1.99	2.03	2.05	2.05	2.04	2.01	1.97	1.92	1.87
1.81	1.74	1.68	1.61	1.55	1.50	1.45	1.41	1.38	1.35	1.32	1.30	1.32	1.35	1.38	1.42	1.46	
1.51	1.56	1.62	1.68	1.75	1.81	1.87	1.93	1.98	2.01	2.04	2.05	2.05	2.03	1.99	1.93	1.87	
1.79	0.00	0.00	0.00														
	0.00	0.00	0.00	0.00	0.00	1.78	1.86	1.93	1.98	2.02	2.05	2.05	2.04	2.02	1.98	1.93	1.88
1.82	1.75	1.69	1.63	1.57	1.52	1.47	1.43	1.39	1.37	1.35	1.34	1.35	1.37	1.40	1.43	1.47	
1.52	1.57	1.63	1.70	1.76	1.82	1.88	1.94	1.98	2.02	2.04	2.05	2.04	2.02	1.98	1.92	1.85	
1.77	0.00	0.00	0.00														
	0.00	0.00	0.00	0.00	0.00	1.76	1.84	1.91	1.97	2.02	2.04	2.05	2.05	2.02	1.99	1.95	1.89
1.84	1.78	1.71	1.65	1.59	1.54	1.49	1.45	1.42	1.40	1.38	1.38	1.38	1.40	1.43	1.46	1.50	
1.55	1.60	1.66	1.72	1.78	1.84	1.90	1.95	1.99	2.03	2.05	2.05	2.04	2.01	1.97	1.91	1.83	
1.75	0.00	0.00	0.00														
	0.00	0.00	0.00	0.00	0.00	1.82	1.89	1.96	2.00	2.04	2.05	2.05	2.03	2.00	1.96	1.92	
1.86	1.80	1.74	1.68	1.63	1.58	1.53	1.49	1.46	1.44	1.42	1.42	1.43	1.44	1.46	1.50	1.53	
1.58	1.63	1.69	1.75	1.81	1.87	1.92	1.97	2.01	2.04	2.05	2.05	2.03	2.00	1.95	1.89	1.81	
0.00	0.00	0.00	0.00														
	0.00	0.00	0.00	0.00	0.00	1.79	1.87	1.94	1.99	2.03	2.05	2.05	2.04	2.02	1.98	1.94	
1.89	1.84	1.78	1.72	1.67	1.62	1.58	1.54	1.51	1.49	1.47	1.47	1.47	1.49	1.51	1.54	1.58	
1.62	1.67	1.73	1.79	1.84	1.90	1.95	1.99	2.02	2.04	2.05	2.04	2.02	1.98	1.93	1.86	1.78	
0.00	0.00	0.00	0.00														

0.00	0.00	0.00	0.00	0.00	0.00	1.76	1.84	1.91	1.97	2.01	2.04	2.05	2.05	2.03	2.00	1.97
1.92	1.87	1.82	1.77	1.72	1.67	1.63	1.59	1.57	1.54	1.53	1.53	1.53	1.55	1.57	1.60	1.63
1.68	1.72	1.77	1.83	1.88	1.93	1.97	2.01	2.03	2.05	2.05	2.04	2.01	1.96	1.90	1.83	1.75
0.00	0.00	0.00	0.00													
0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.80	1.88	1.94	1.99	2.03	2.05	2.05	2.04	2.02	1.99
1.96	1.91	1.87	1.82	1.77	1.73	1.69	1.66	1.63	1.61	1.60	1.59	1.60	1.61	1.63	1.66	1.69
1.73	1.78	1.82	1.87	1.92	1.96	2.00	2.03	2.04	2.05	2.04	2.02	1.99	1.94	1.87	1.80	0.00
0.00	0.00	0.00	0.00													
0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.76	1.84	1.91	1.97	2.01	2.04	2.05	2.04	2.02	2.02
1.99	1.95	1.91	1.87	1.83	1.79	1.75	1.72	1.70	1.68	1.67	1.66	1.67	1.68	1.70	1.73	1.76
1.79	1.83	1.87	1.92	1.96	1.99	2.02	2.04	2.05	2.05	2.03	2.00	1.96	1.90	1.83	1.75	0.00
0.00	0.00	0.00	0.00													
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.80	1.87	1.93	1.98	2.02	2.04	2.05	2.05	2.04
2.02	1.99	1.96	1.92	1.89	1.85	1.82	1.79	1.77	1.75	1.74	1.74	1.75	1.77	1.79	1.82	
1.85	1.89	1.92	1.96	1.99	2.02	2.04	2.05	2.05	2.04	2.02	1.98	1.93	1.86	1.79	0.00	0.00
0.00	0.00	0.00	0.00													
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.75	1.82	1.89	1.95	1.99	2.02	2.04	2.05	2.05
2.04	2.02	1.99	1.97	1.94	1.91	1.88	1.86	1.84	1.82	1.82	1.81	1.82	1.83	1.84	1.86	1.88
1.91	1.94	1.97	2.00	2.02	2.04	2.05	2.05	2.04	2.02	1.99	1.94	1.88	1.82	1.74	0.00	0.00
0.00	0.00	0.00	0.00													
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.77	1.84	1.90	1.96	2.00	2.03	2.04	2.05
2.05	2.04	2.02	2.01	1.98	1.96	1.94	1.92	1.90	1.89	1.89	1.88	1.89	1.89	1.91	1.92	1.94
1.96	1.99	2.01	2.03	2.04	2.05	2.05	2.04	2.02	1.99	1.95	1.90	1.83	1.76	0.00	0.00	0.00
0.00	0.00	0.00	0.00													
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.78	1.85	1.91	1.96	2.00	2.03	2.04	2.04
2.05	2.05	2.04	2.03	2.02	2.00	1.99	1.97	1.96	1.95	1.95	1.95	1.95	1.96	1.98	1.99	
2.01	2.02	2.04	2.05	2.05	2.05	2.04	2.02	1.99	1.96	1.91	1.85	1.78	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00													
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.79	1.86	1.91	1.96	1.99	2.02		
2.04	2.05	2.05	2.05	2.04	2.04	2.03	2.02	2.01	2.00	2.00	2.00	2.00	2.01	2.02	2.03	
2.04	2.04	2.05	2.05	2.05	2.04	2.02	1.99	1.95	1.91	1.85	1.78	0.00	0.00	0.00	0.00	
0.00	0.00	0.00	0.00													
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.79	1.85	1.91	1.95	1.98			
2.01	2.03	2.04	2.05	2.05	2.05	2.05	2.04	2.04	2.04	2.03	2.03	2.04	2.04	2.04	2.05	
2.05	2.05	2.05	2.04	2.03	2.01	1.98	1.95	1.90	1.85	1.78	0.00	0.00	0.00	0.00	0.00	
0.00	0.00	0.00	0.00													
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.78	1.84	1.89	1.93				
1.97	2.00	2.02	2.03	2.04	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05	
2.05	2.04	2.03	2.02	1.99	1.97	1.93	1.89	1.83	1.78	0.00	0.00	0.00	0.00	0.00	0.00	
0.00	0.00	0.00	0.00													
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.77	1.82	1.87					
1.91	1.95	1.97	2.00	2.01	2.03	2.03	2.04	2.04	2.05	2.05	2.05	2.05	2.04	2.04	2.03	
2.02	2.01	1.99	1.97	1.94	1.91	1.87	1.82	1.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.00	0.00	0.00	0.00													
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.77	1.84	1.89	1.93				
1.84	1.88	1.91	1.94	1.96	1.98	2.00	2.01	2.01	2.02	2.02	2.02	2.02	2.01	2.01	2.00	
1.98	1.96	1.94	1.91	1.88	1.83	1.79	1.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.00	0.00	0.00	0.00													

